Cornwall Maths Conference
Love the Maths!

11th March 2016

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Reach 100 (1130)

You must choose four **different** digits from $1 - 9$ and put one in each box. For example:

5	2
1	9

This gives four two-digit numbers:

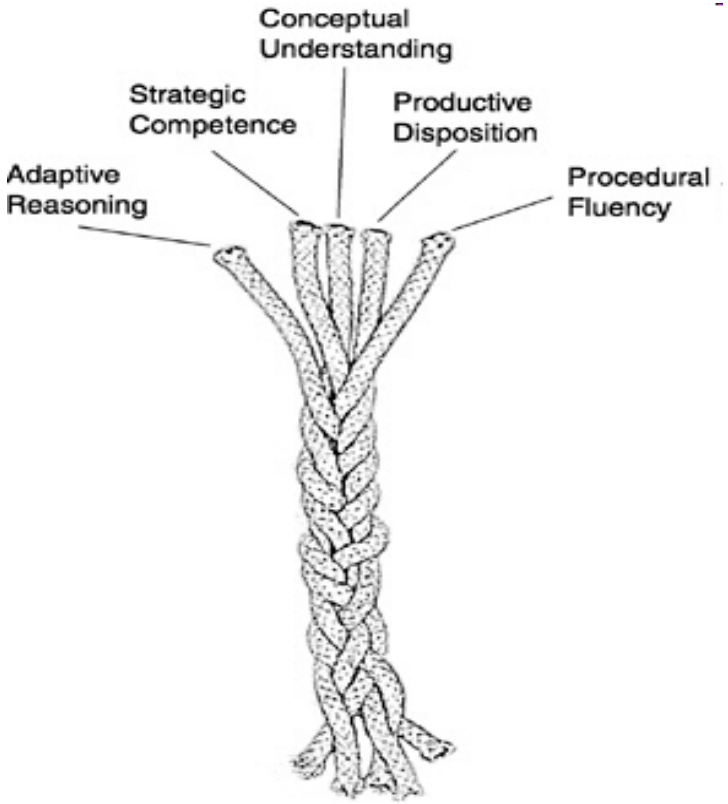
52 (reading along the 1st row)
19 (reading along the 2nd row)
51 (reading down the left hand column)
29 (reading down the right hand column)

In this case their sum is 151.

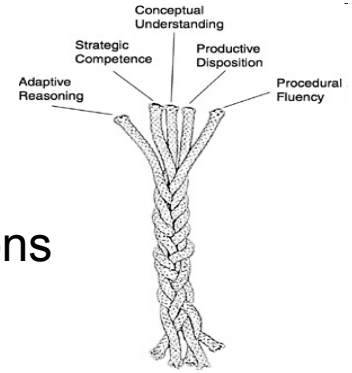
Your challenge is to find four **different** digits that give four two-digit numbers which add to a total of 100.

How many ways can you find of doing it?

NRICH: Working like a Mathematician



Five strands of mathematical proficiency
From NRC (2001) *Adding it up:*
Helping children learn mathematics



Conceptual understanding:
comprehension of mathematical concepts, operations, and relations

Procedural fluency:
skill in carrying out procedures flexibly, accurately, efficiently, and appropriately

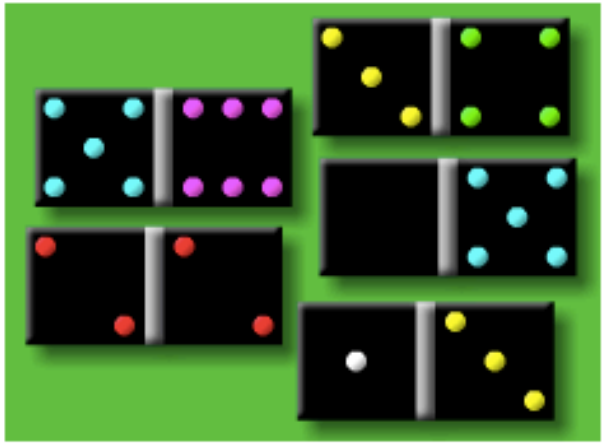
Strategic competence:
ability to formulate, represent, and solve mathematical problems

Adaptive reasoning:
capacity for logical thought, reflection, explanation, and justification

Productive disposition:
habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy.

Domino Sets (9965)

When you buy a set of 0-6 dominoes they often come in cardboard boxes - and those boxes sometimes don't last very long!
What if you were given lots of dominoes in a bag?
Before you started playing it might be a good idea to find out if you have a full set!
How would you go about it?
How could you be sure?



What if someone gave you some 0-9 dominoes?
How many do you think there would be in a full set?

Guess the Dominoes (6995)

Guess the Dominoes

Stage: 1, 2 and 3 ★

This is one of a series of problems designed to develop learners' team working skills. Other tasks in the series can be found by going to this article.

Problem-solving Process

1. Getting started

   try a simpler case draw a diagram

   represent with model act it out

2. Working on the problem

   visualise work backwards

   reason logically conjecture

   work systematically look for a pattern

   trial and improvement

3. Digging deeper

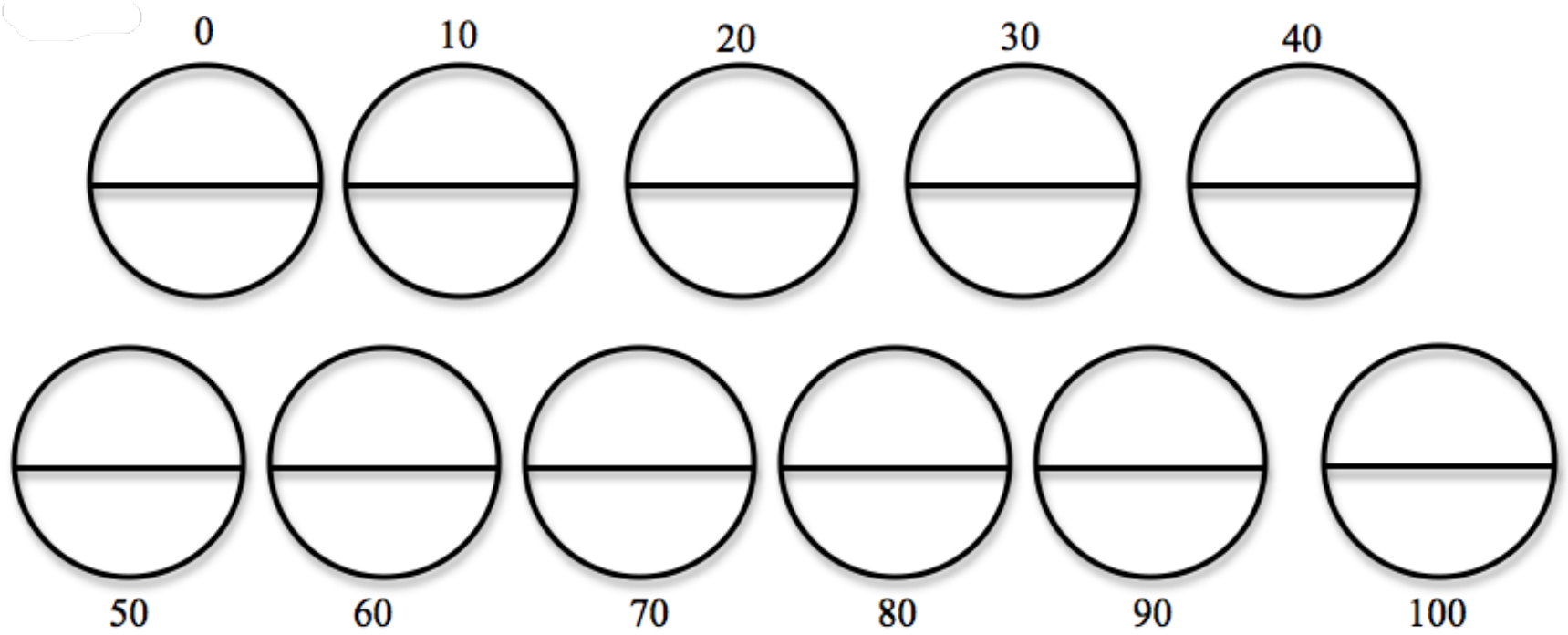
   generalise verify prove

4. Concluding

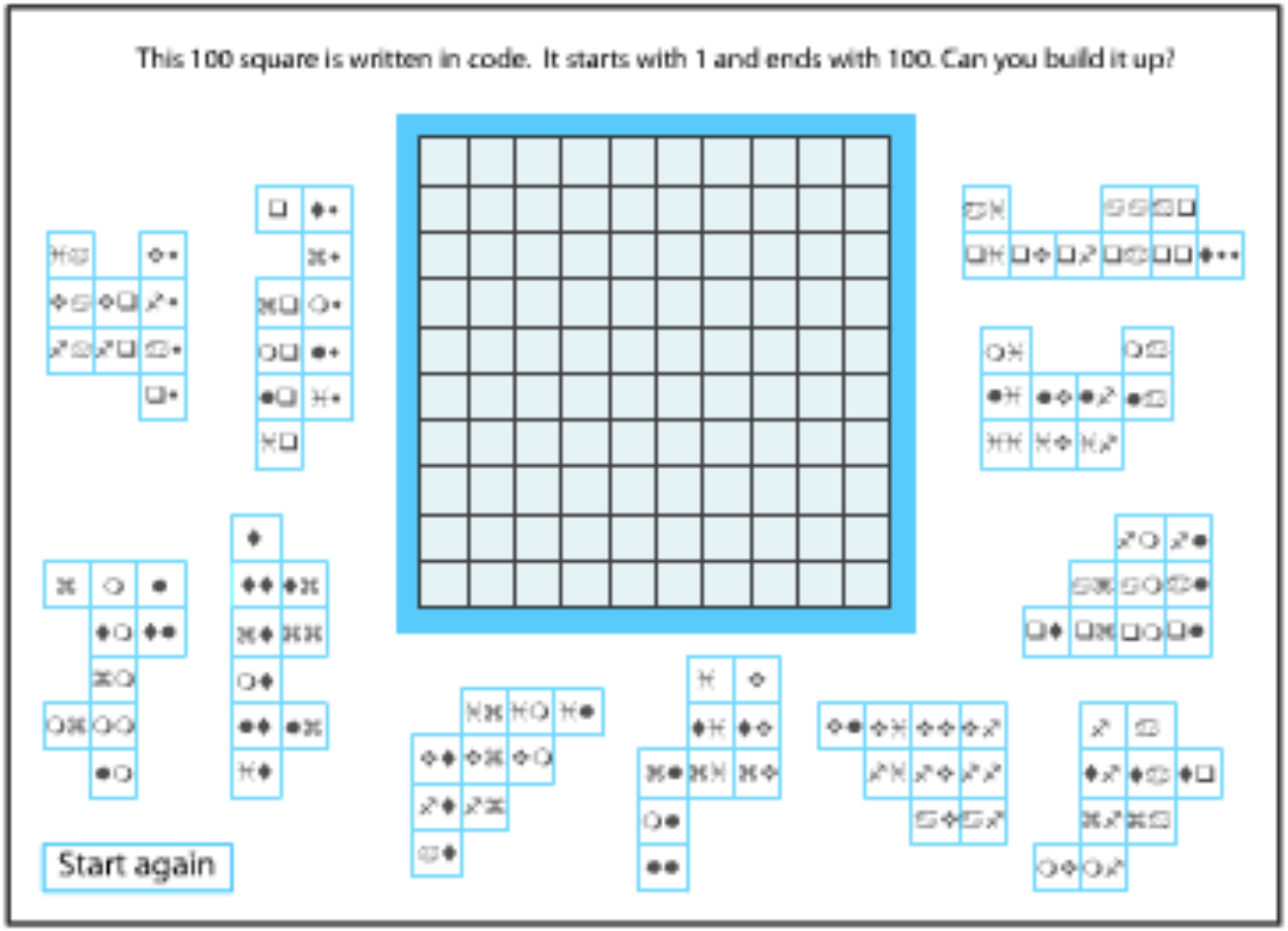
   communicate findings

   evaluate

Reasoned Rounding (10945) *



Coded Hundred Square (6554)



Primary (11864) & Secondary (11386)

Developing Mathematical Habits of Mind - Primary

Published January 2015.

For problems arranged by curriculum topics or problem-solving skills, visit the NRICH Primary Curriculum page.

Children learn better when they are curious, thoughtful, determined and collaborative.

Here are some collections of mathematical activities designed to give Stage 1 and 2 learners opportunities to develop these desirable characteristics.

Being Curious - Primary
These problems will exploit primary learners' natural curiosity and provoke them to ask good mathematical questions.

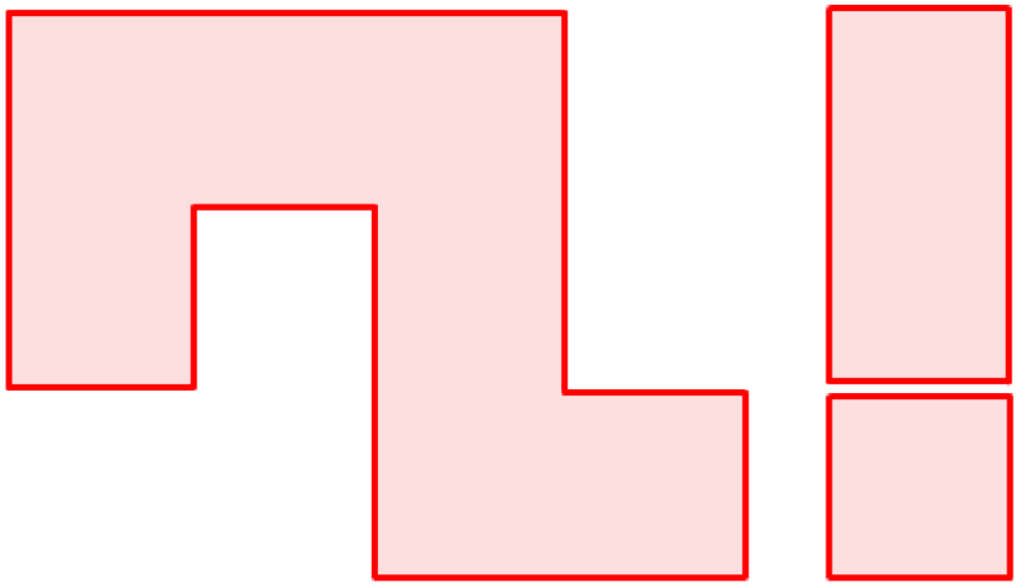
Being Thoughtful - Primary
These problems require careful consideration. Allow your learners time to become absorbed in them. They are designed to help primary children develop the habit of being thoughtful.

Being Collaborative - Primary
These problems are ideal for primary school children to work on with others. Encourage your learners to share ideas, and recognise that two heads can be better than one.

Being Determined - Primary
These problems require determination for primary school children. Encourage your learners to persevere - there's often a great sense of achievement when we've had to struggle.

Reflecting Squarely (1840)

The three shapes below can be fitted together (edge to edge, with no overlaps) to make shapes with line symmetry.



Welcome to Wild Maths

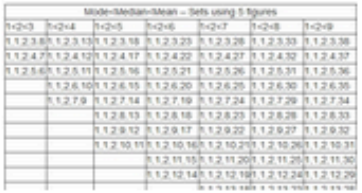
wild.maths.org

Welcome to Wild Maths

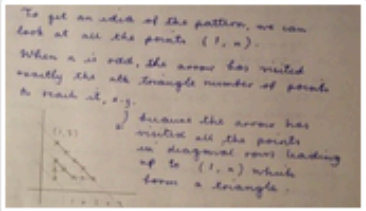
- Here, you are free to roam and develop as a mathematician. We invite you to embark on a mathematical adventure!
- At Wild Maths, we believe that mathematics is a creative subject.
- It involves spotting patterns, making connections, finding new ways of looking at things and using what you already know in new contexts.
- Creative mathematicians play around with examples, draw pictures, have the courage to experiment and ask good questions.

Showcase

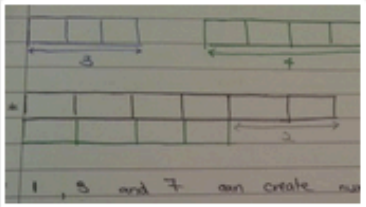
We are delighted to showcase some of the work that has been sent to us! If you've worked hard on a task, or want to share your own explorations inspired by wild.maths.org, do get in touch!



Equal and Unequal Averages: Zach's Solution



Are We Nearly There?: Hannah's Solution

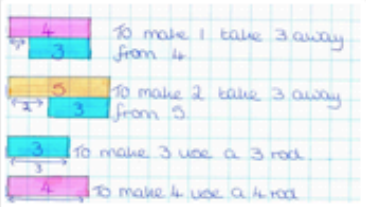


Measuring with Rods: Justin's findings

Longer and Longer: Billy's Proof

Measuring with Rods: Isabel's video explanation

Measuring with Rods: Jack and Grace's investigation



Measuring with Rods: Holly's investigation

Wild Maths

- Our front page presents a random and ever-changing selection - have a go at anything that catches your eye. *If you'd like to follow a more structured path, or explore challenges and investigations that are linked by some shared mathematical areas, click on the 'Pathways' link in the top menu*
- We provide games, investigations, stories and spaces to explore, where we know there are discoveries to be made. *Some have starting points, some a big question and others offer you a free space to investigate.*

Wild and NRICH

Wild Maths	NRICH
Targets pupils exploring maths out of school	Targets teachers working with their classes
Encourages on-going submissions for collaborative working	Encourages submissions to our ‘Live Problems’

“I’ve come to a frightening conclusion that I am the decisive element in the classroom. It’s my personal approach that creates the climate. It’s my daily mood that makes the weather. As a teacher, I possess a tremendous power to make a child’s life miserable or joyous. I can be a tool of torture or an instrument of inspiration. I can humiliate or heal. In all situations, it is my response that decides whether a crisis will be escalated or de-escalated and a child humanized or dehumanized.”

Johann Wolfgang Von Goethe

Next Steps

For NRICH:

- Sign up for our free NRICH newsletter
- Subscribe to our Twitter feed

For Wild:

- Encourage your pupils to explore Wild
- Share your thoughts at wild@maths.org